

Abridged Description of current Advanced Toll Collection & Accounting System (ATCAS)

The existing ATCAS performs the following functions:

- Process tolls electronically, using FasTrak;
- Record tolls indicated by toll collectors;
- Count and record traffic data and expected revenue by devices;
- Report revenue and traffic data;
- Capture images of violating vehicles⁽¹⁾;
- Interface with Customer Service Center⁽²⁾ for FasTrak toll transactions.

⁽¹⁾ The Violation Enforcement System is currently being replaced under a separate contract.

⁽²⁾ ACS State and Local Solutions, Inc. runs the Customer Service Center.

The Bay Area Toll Authority (BATA) owns and manages toll collection on the seven toll bridges in the Bay Area and accounts for these revenues. Caltrans controls and maintains the physical bridges, toll plaza structures and manages the toll collectors and toll collection process.

The ATCAS system can be divided into the following five major parts:
(Refer to the ATCAS System Diagram on this website.)

- I. Lane Peripherals – includes following in-lane equipments and devices:
 - Promux interface
 - Touch screen
 - Receipt printer
 - Magnetic card reader
 - Antenna (ETC reader)
 - Treadles
 - Light curtains
 - Patron toll display
 - B&W camera
 - Color camera
- II. Lane Controllers – located in each plaza, with custom software that controls the lane devices and receives signals from lane devices, generates toll transactions that are sent to the plaza server.
- III. Plaza Servers – Each plaza has one ATCAS plaza server which receives and coordinates all transactions from lane controllers in that plaza. Plaza server is responsible for process transactions for business day closing and send summarized transactions to Host server. In addition to serve as data

source for plaza supervisor to monitor lane activity, and to generate pre-defined plaza reports, it also receives ETC customer account information, rate table, etc. from host and download to lane controllers in that plaza. The plaza server is also responsible for recording maintenance activities and alarms. However, the On-Line Management System (MOMS) part of ATCAS has never been used.

IV. Host Server – currently located in Caltrans District 4 Data Center, has the following functions:

- Store summarized transactions from all seven plaza servers;
- Serve as data source for pre-defined host reports;
- Send data to Interface server, which in turn formats the data and send to CSC through FTP drop box server;
- Receive ETC customer account information from CSC (via Interface server and drop box server) and distributes to seven plaza servers;
- Feed MTC's accounting system (IFAS/BITECH);
- Retrieve customer information from DMV server.

V. Interface Systems

Legacy ATCAS system, as depicted on the ATCAS system diagram, interacts with a number of other systems with different purposes, which are listed as follows:

- Open Road Tolling (ORT) system – handles ORT lanes tolling at Benicia Bridge. This system interacts with the plaza server at Benicia Bridge.
- Hybrid lane controller & server – handles the hybrid vehicle tolling in dedicated HOV lanes at Bay Bridge, Dumbarton Bridge, and Carquinez Bridge. This server interacts with FTP drop box server.
- IFAS/BITECH - MTC's accounting system. ATCAS Host server feeds cash transaction summary data into this system. CSC's Vector server feeds ETC and violation transaction summary data into this system.
- Interface server and FTP drop box – These servers serve as bridges to send and receive data between Host server and CSC's Vector system. Also serve as bridges between Hybrid server and CSC's Vector system; bridges between VES and CSC's Vector system.
- Violation Enforcement System (VES) – This is currently being replaced under a separate contract. The estimated completion date is June 2009.